



May 31, 2005

Submitted Electronically

Mr. Michael Wilhelm
Chief, Public Safety and Critical Infrastructure Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: WT Docket No. 04-344, Amendment of the Commission's Rules Regarding
Maritime Automatic Identification Systems;
Ex Parte Letter

Dear Mr. Wilhelm:

This letter follows up your meeting of March 30, 2005 with me and Gary Smith, our Chief Technical Officer (CTO), regarding the above referenced proceeding. As you know, the Federal Communications Commission's ("FCC") Notice of Proposed Rule Making ("NPRM") in that proceeding proposes to designate channel 87B for Automatic Identification Systems ("AIS") in maritime areas of the US. At our latest meeting with you and your staff we demonstrated that MariTEL is moving forward to implement its maritime data service and that we fully expect that the FCC will, in the context of this rule making proceeding, protect our operations from harmful AIS interference .

During our meeting you asked whether MariTEL's operations would cause interference to AIS. We answered that MariTEL's shipboard transmissions would not cause significant interference to AIS because those transmissions would be 4.7 MHz away from AIS. However, during our meeting we did not address the impact that MariTEL's shore station operations would have on AIS, in part because, the United States Coast Guard and the National Telecommunications and Information Administration ("USCG/NTIA") have specifically rejected the need for MariTEL to protect AIS through the use of guardbands or otherwise. Subsequent to the March 30, 2005 meeting, we examined the potential of AIS shore station interference from MariTEL operations again. The purpose of this letter is to provide you with the benefit of that review.

Our analysis focuses on the impact to AIS of activity on adjacent channels¹ and is consistent with MariTEL's previously stated concerns. The USCG/NTIA has stated that MariTEL's concerns are not warranted and that AIS can be implemented safely in the presence of such adjacent channel operations. As noted above, while MariTEL recognizes that the USCG/NTIA may be principally concerned with ensuring the proper operation of the AIS network, MariTEL wishes to

¹ Operations on adjacent channels is potentially the most impacting to AIS operations, however, other VPC channels may also impact AIS operations to a lesser extent.



ensure that the FCC's decision will definitively settle the spectrum needed -- whether for operational requirements, guardband, or otherwise -- for AIS. We believe that this analysis presents a more complete picture.² The attached show the results of different VPC to AIS interference scenarios.

Presumptions. For simplicity, these attached RF models specify only coverage and non-coverage areas based on the signal to noise ratio. In each map, areas shown in green depict that a balanced communication path between the shore and vessel station is possible when both the shore and vessel station concurrently receive signals exceeding a 12 dB signal-to-noise ratio. Areas shown in grey depict that a balanced communication path is not possible because either the shore or vessel receive signals are below a 12 dB signal-to-noise ratio. In each case, we presume a VPC system based primarily on the use of VPC channels adjacent to AIS. Base station range for these systems varies between 36 and 45 miles based on configuration. We also presume an AIS system in the absence of interference sources. The modeling assumes Class A AIS transponders transmitting at 12.5 Watts. Multiple models are shown including: 1) a stand alone maritime system 2) a stand alone AIS system and 3) multiple scenarios wherein both the maritime and AIS system are concurrently active³.

Results: The clear result is that AIS operations are substantially affected when adjacent VPC channels⁴ are in operation -- resulting in a system that provides unpredictable results. The models demonstrate that the AIS system can abruptly and unpredictably oscillate between 25 miles of AIS reception to potentially less than 1 mile reception based on factors not readily observable by the vessel operator. Additionally, because of the inherent higher power of shore stations and AIS receiver characteristics, VPC operations can have the effect of isolating an AIS vessel to a potentially very narrow radius of communication, effectively eliminating the reception of signals from vessels or shore stations outside a very narrow circle surrounding the vessel.

² This analysis utilizes a commercially available RF analysis tool. Every effort has been made to insure the RF propagation models are accurate including specifically using Part 80 FCC propagation and applying the specific AIS and VPC transmitter and receiver characteristics. Other simplifying assumptions have been made for the purposes of this analysis which do not materially change the results.

³ We recognize that AIS and VPC systems have very different transmissions characteristics. AIS relies on short (23 - 115 ms) periodic bursts of data. The AIS channel usage however, is directly related to the number of AIS equipped vessels in an area. VPC communications, on the other hand, typically consist of relatively long communications (as long as 10-15 minutes in length) with relatively long times of channel inactivity. When the communication channel is in use, the base station transmitter is keyed continuously.

⁴ As noted above, this analysis only reviews immediately adjacent channels. It is possible that the impact on AIS will be even greater taking into consideration operations on other VPC channels.



The following are the tabular results for different scenarios.

Scenario	No Interference (Range)	Adjacent Channel Interference (Potential Range)
Inland Waterways	25 miles	1-10 miles
Ports	25 miles	1-8 miles
Coastline	25 miles	4-16 miles

These results substantiate our stated concern regarding the impact on AIS systems from VPC operations. Interference to AIS operations is plainly more the concern of the USCG/NTIA than it is MariTEL's. MariTEL does not wish to substitute its judgment for the USCG/NTIA's regarding the acceptable parameters of an AIS system. However, MariTEL wishes for this issue to be fully addressed now so that the USCG/NTIA cannot later claim that more of MariTEL's channels should be dedicated for AIS operations, either for operational or guardband purposes.

I hope this is helpful in the FCC's consideration of this matter. If you have any questions, please contact me.

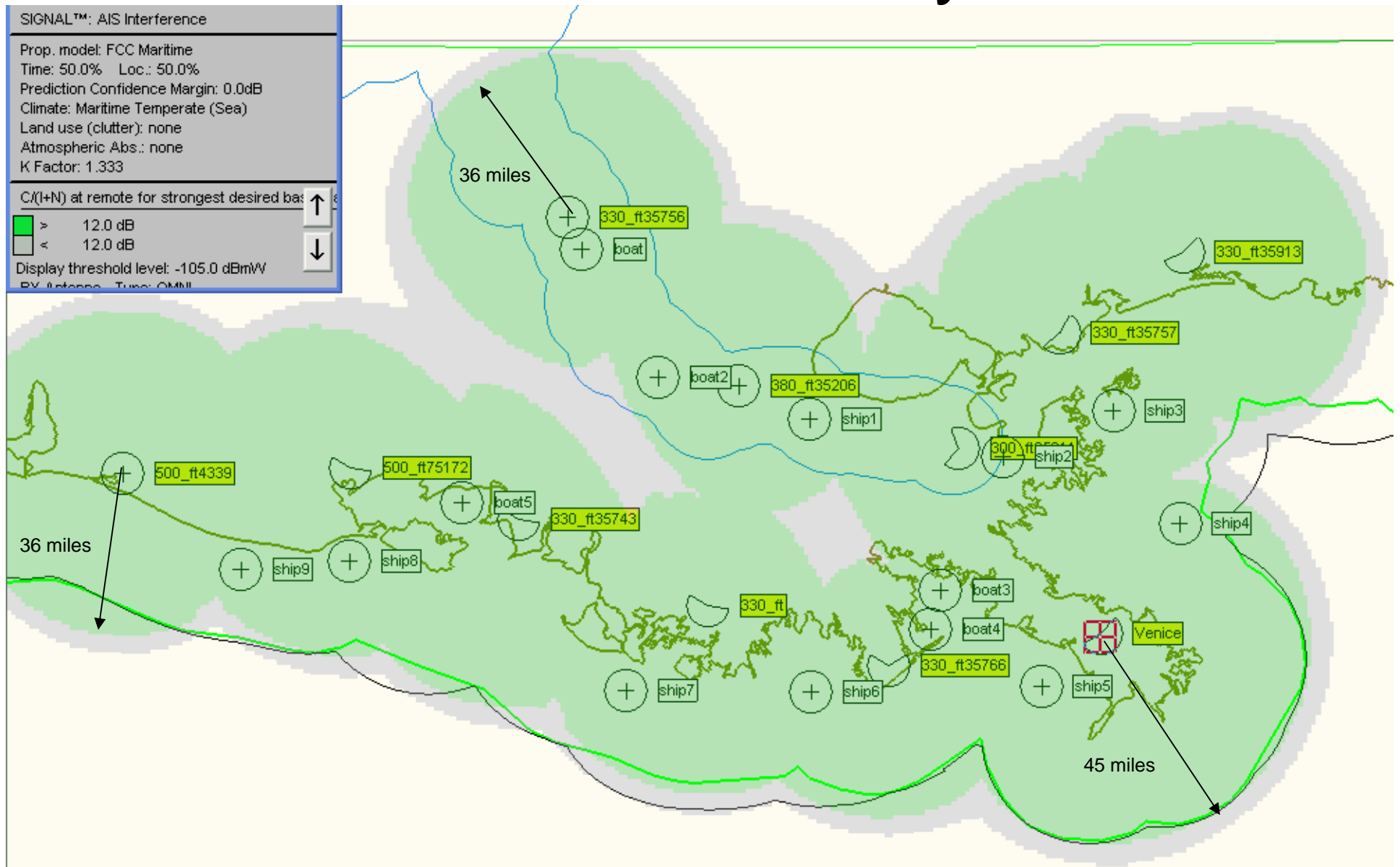
Very truly yours,

A handwritten signature in black ink that reads "Dan Smith". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

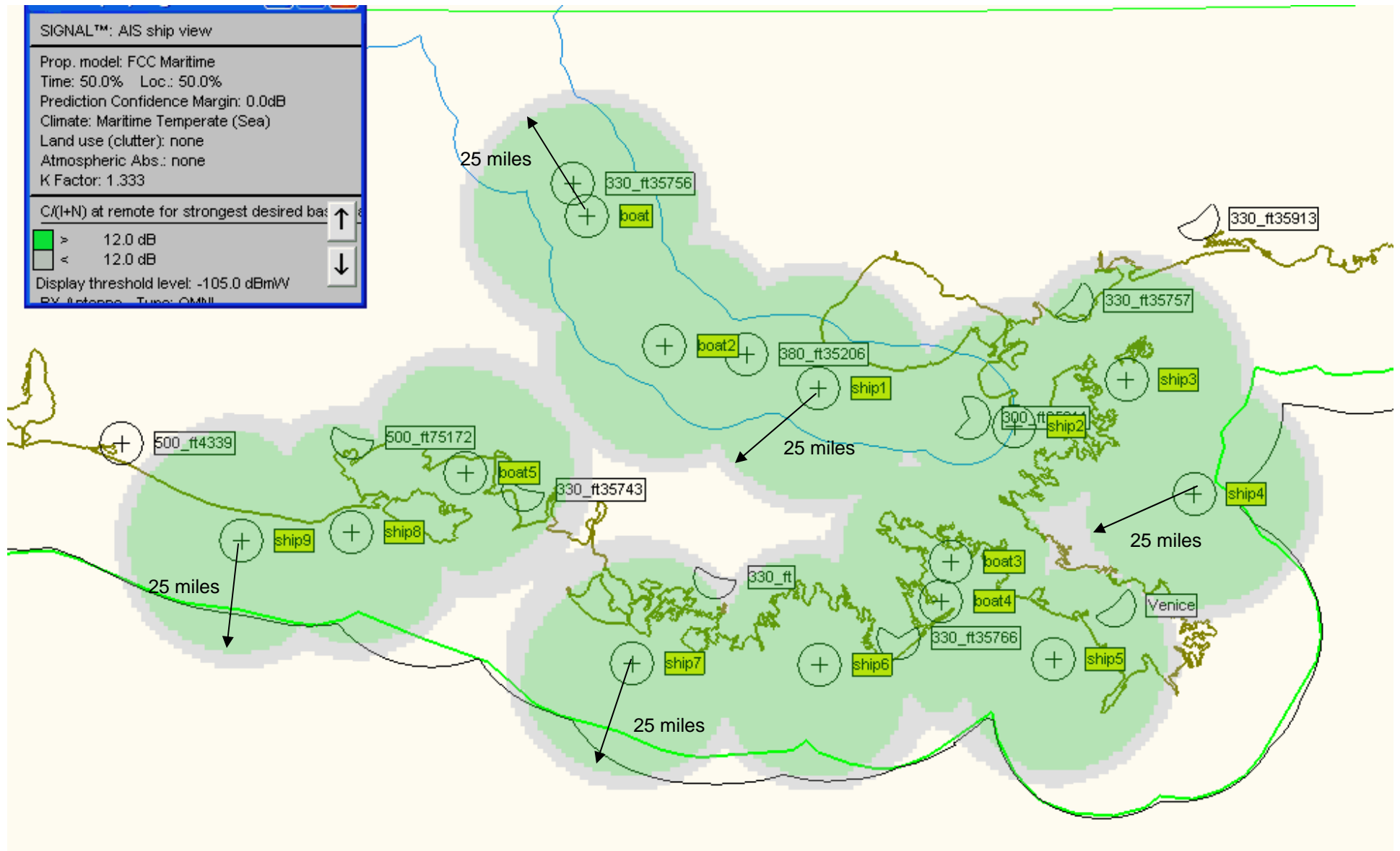
Dan Smith
President and CEO

Attachments

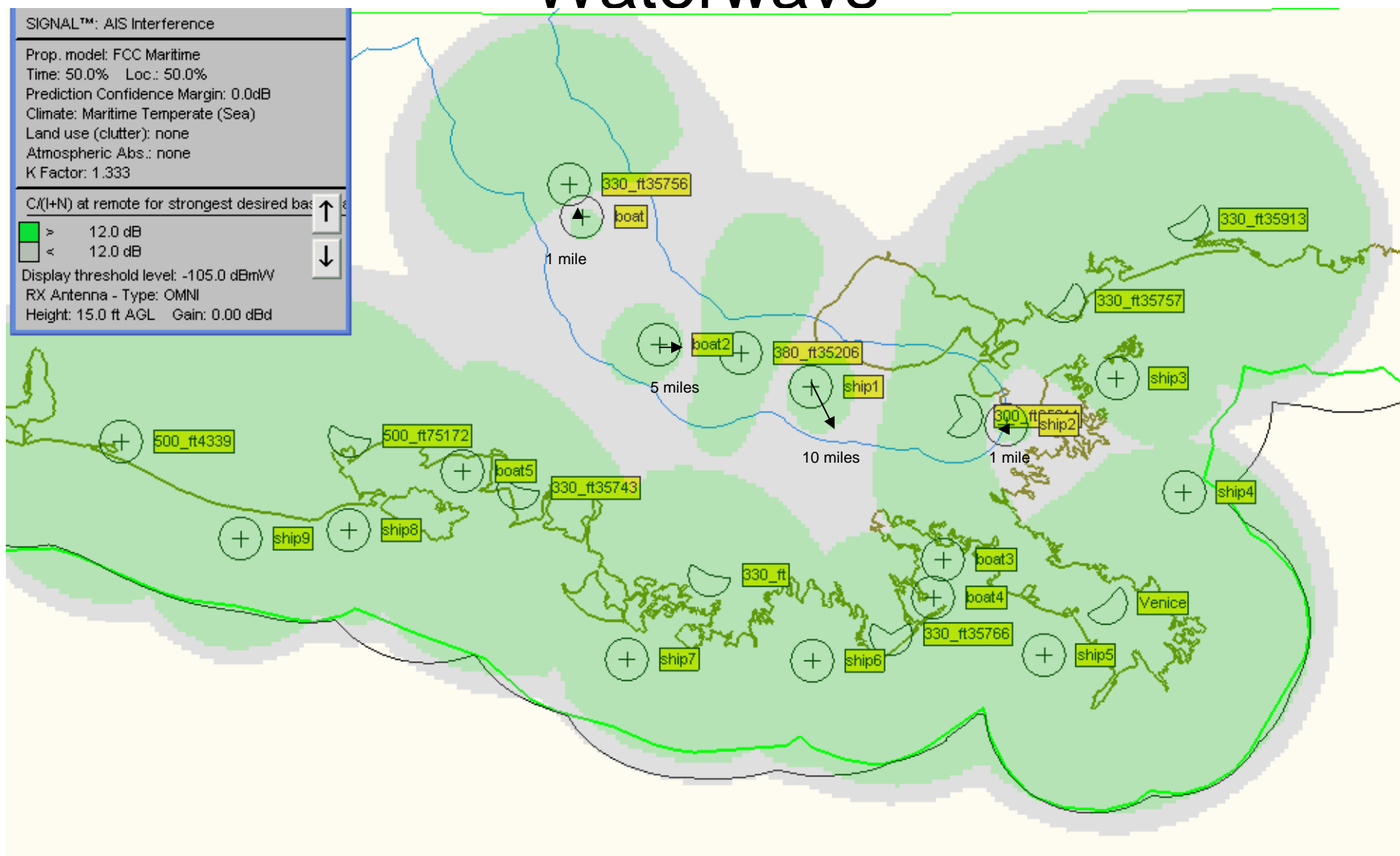
Maritime Network System



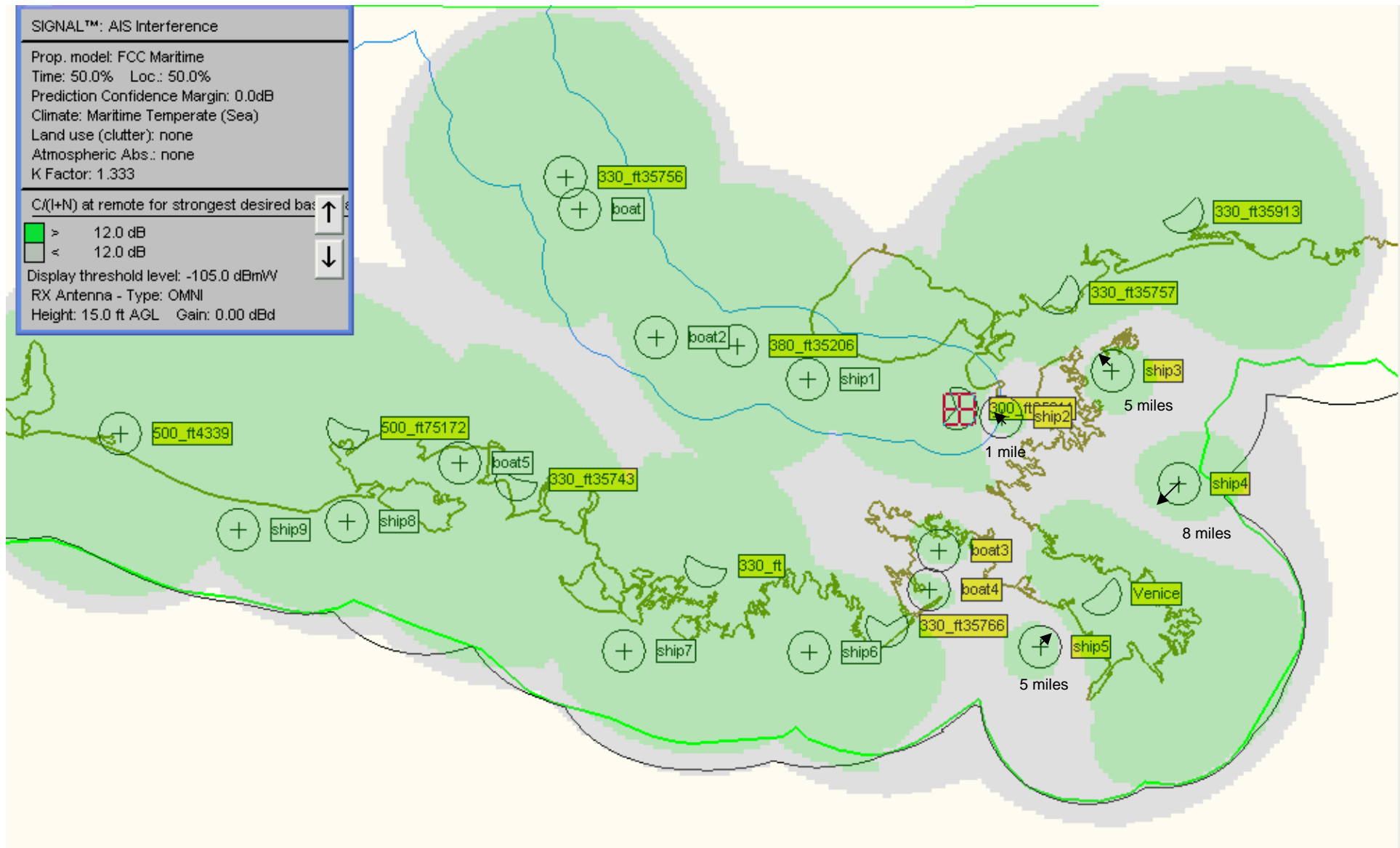
AIS System



Impact on Vessels on Inland Waterways



Impact on Vessels in a Port



Impact on Vessels Along the Coast

